DOCUMENT RESUME

ED 270 679 CG 019 133

AUTHOR Sigmon, Scott B.
TITLE Does Participation in a Psychological Experiment Help the Young College Student?
PUB DATE [75]
NOTE 49p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Altruism; College Students; *Helping Relationship; Higher Education; *Prosocial Behavior; *Self Esteem; *Sex Differences; *Volunteers

ABSTRACT

An extensive literature review of helping behavior revealed research showing that sex differences in helping behavior were probably due to the sex of the person receiving help rather than to that of the person giving help and that volunteers' personality characteristics vary. This study compared differences in self-esteem between males and females and between volunteers and non-volunteers. Fifty undergraduate students participated in the pretest and 109 in the experimental test. The task administered was the Object Identification Test which includes male-appropriate and female-appropriate forms. When a subject is administered the opposite sex's appropriate form, this constitutes a sex-inappropriate task. Subjects identified objects such as a flathead screwdriver or an electric wok. A combination self-esteem/personal competence scale was also administered. Subjects marked their tests with a "v" if they wished to volunteer for further psychological research. In the second session subjects in experimental groups were presented with either a sex-appropriate or sex-inappropriate task. Non-volunteers and volunteers were run through the same procedure at the same time. The results revealed that the self-esteem of volunteers was raised only slightly more than that of non-volunteers with no significant differences between males and females. A statistically higher percentage of females volunteered with a male making the request. These findings support the view that sex differences in helping behavior should not be assumed. Samples from the descriptions of the Objective Identification Test and the self-esteem/personal competence scale are included. A six-page reference list is appended. (ABL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED270679

Does Participation In A Psychological Experiment Help The Young College Student?

by Scott B. Sigmon

Montclair State College

New Jersey

CG 019133

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Scott B. Sigmon

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Does Participation In A Psychological Experiment Help The Young College Student?

Summary. This study compared differences between males and females plus volunteers and non-volunteers in self-esteem, utilizing a pre- and posttest measure. The posttest for experimental subjects was taken after they performed either a sex-appropriate or sex-inappropriate object identification task. The hypotheses were that (a) helping will increase the self-esteem of volunteers more than that of non-volunteers, (b) helping will raise the self-esteem scores more for females than males, and (c) because the experimenter in this study is a male graduate student, the percentage of females volunteering will be larger than that of males. There was no significant difference in self-esteem scores between females and males or non-volunteers and volunteers on either the initial pretest or the pretest/posttest change scores. However, the hypothesis that there would be a higher percentage in female voluntarism with a male making the request was statistically significant ($p < .10$).

In social psychology attempts have been made to examine altruism in terms of a motivational base. Most research has analyzed the effect of temporary states of

the benefactors (Krebs, 1970) in an effort to see what a giver is like. The problem is, however, that altruistic responses depend very heavily on situational factors which make generalizing risky. Some factors are the scene of a possible act, the perceived qualities of the potential recipient, who else is in the vicinity (such as a model), and the past experiences of the benefactor in question.

The issue of defining what altruism really is has not yet been resolved. Also, the historical background in this area is relatively new. This has created problems for those trying to pinpoint the cause of altruism for purposes of prediction. Wispe (1972) defines altruism as referring to a regard for the interest of others without concern for one's self interest. This definition is intriguing, but hampers empirical methodology. However, Wispe (1972) offers some workable definitions as follows:

> Extrapolated to real life, <u>helping</u> involves time and effort but probably not personal danger; <u>charity</u> involves material sacrifices, but not necessarily much time or effort; <u>intervention</u> requires not only time and effort, but more clearly connotes personal involvement and even personal danger, as the person, using every means at his disposal, including force if necessary, tries to protect the interests of or prevent harm to another person.

The above definition of helping is workable for this paper, and helping will be synonymous with volunteering or

participating in this study. However, volunteering connotes more help than does mere participation.

The literature concerning altruism, like other motivated behavior, contains many different bases. Schwartz (1968) maintains that awareness of consequences for and responsibility to another is necessary for altruistic behavior to occur whereas others don't. For instance, Lorenz (1966) wrote that our prehuman ancestor was indubitably as true a friend to his friend..., as tender and solicitous to the young of his community and as self-sacrificing in its defense, aeons before he developed conceptual thought and became aware of the consequences of his actions.

The psychological paradox of altruism is clearly presented by Rosenhan (1972). He states that if reinforcement is necessary for the acquisition and maintenance of behavior, how can one explain altruism which by definition requires no rewards? Maslow (1971) wrote that...the person seeking to be altruistic and to help others must then necessarily reap selfish benefits. The philosophical dilemma is that it is logically indefensible to prefer the interests of another person over one's own interests if both individuals are assumed to be equal (Katz, 1972).

Topics such as guilt, conscience, sympathy, morality, equity, justice, reciprocity, social norms, reinforcement, egoism and the "urge towards union with others in the community, which we call altruistic" (Freud, 1930) are the substance of what presently makes up theories to aid

understanding and to explain altruistic behavior. Krebs (1970) ends his massive review on altruism with the observation that because man acts altruistically does not mean that he is altruistic.

There are reasons why help is or is not given. In the most direct sense a person's value system may influence a decision on whether or not to act. If the individual values his own survival over everything else, then before intervening the potential benefactor will evaluate if there is any possible personal danger involved. Berkowitz (1970) suggested that self-concern dampens altruism. It is interesting to note here the research by Fellner and Marshall (1970) about persons asked to be kidney transplant donors, for their close relatives, because it was shown that their decisions were "instantaneous or split second." Another consideration which would follow is the possibility of loss or damage to one's possessions. Next, the more trivial matters by comparison might be evaluated. These would be the cost in time to the benefactor, the personal attractiveness of the potential recipient, or perhaps there might be some kind of camaraderie due to in-group affiliation. What is being proposed here is a hierarchy of values which determine altruistic responses.

It is relevant to examine emergency situations when studying altruism. Darley and Latane (1968) propagated that stress, novelty, and "diffusion of responsibility"

accounted for a lack of intervention from bystanders in groups when confronted with an obvious emergency. This line of thought is strengthened by Skinner (1953) when he wrote that: In general, behaving as others behave is likely to be reinforcing; and prior reinforcements by the group determine the suitability of the behavior of the individual. In other words, there were probably few individuals in the Darley and Latane groups who had ever been reinforced for helping in emergencies, yielding a shortage of models, causing inaction to be the group norm. Perhaps if there were people there who dealt with emergencies on a regular basis their results might have been different.

It seems as though reciprocity is the most plausible explanation for small and/or future favors. Gouldner (1960) theorized that the norm may lead individuals to establish relations only or primarily with those who can reciprocate, thus inducing neglect of the needs of those unable to do so. He also wrote that the norm commonly imposes obligations of reciprocity only when the individual is able to reciprocate. When a stimulus person was dressed to appear to be a high status individual, his dime, which was left in the coin return of a phone booth at Grand Central Station, was returned to him from finders more often than a low status appearing stimulus individual (Bickman, 1972). Also, increased help has been shown for recipients who possess valuable resources (Pruitt, 1968).

It has been empirically demonstrated that increased help is given to recipients who are liked (Daniels and Berkowitz, 1963), and when there are lower levels of cost involved for the benefactor (Schopler and Bateson, 1965).

Weiss, Buchanan, Alstatt, and Lombardo (1971) wrote that data from their laboratory indicate that the roots of altruistic behavior are so deep that people not only help others, but find it rewarding to do so. They further point out that a wealth of recent laboratory experiments on altruistic behavior clearly indicates that under certain circumstances, people will help others who are in need, despite the absence of an externally administered reward for the altruistic person (see reviews by Bryan and London, 1970; Krebs, 1970; Macaulay and Berkowitz, 1970). D. T. Campbell (1965) wrote that ethnocentrism is a cause of altruism and (1972) that it is caused from culturally evolved indoctrination, which has had to counter self-serving genetic tendencies.

Aronfreed (1968) has proposed that during the course of childhood socialization, secondary reinforcement is conditioned to the cues of another person's relief from distress. Weiss, Boyer, Lombardo, and Stich (1973) have shown that subjects learned to work for a sole reinforcer which was the termination of a fellow subject's stress; and the shape of their learning curves exactly paralleled traditional escape conditioning data. Finally, delay of altruistic reinforcement effects resemble those of

conventional reinforcement in showing a decreasing monotonic gradient of response speed (Weiss, Cecil, and Frank, 1973).

There are a multitude of empirical studies which emphasize what precedes the act of helping, but not what helping does. A positive affective state has been shown to produce helping with adults, although contradictory results were found by Staub (1968) with fourth grade children. Berkowitz and Connor (1966) indicated a relationship between success and helping when the beneficiary was dependent on the subject. Midlarsky (1968) also found a correlation between competence and altruism. Isen (1970) postulated that in a nonsolicited, naturalistic, low-cost helping situation an important determinant of helpfulness may be the potential helper's positive affective state or "warm glow of success." Isen and Levin (1972) empirically examined "the effect of feeling good on helping," and found that providing subjects with either cookies or money, which were unexpected in a naturalistic setting, yielded significantly more subsequent helping over control subjects. Gross (1972) proposed an "extrinsic show -- intrinsic glow" continuum, whereby the extrinsic pole represented helping given in order to gain positive social sanctions or avoid negative ones; and the intrinsic pole exemplifies helping given solely for the internal value derived, regardless of the interpersonal consequences. As Reissman (1965) points out in his discussion of the "helper therapy

principle," very frequently the helper is helped as much or more than the person to whom the help is formally directed. In experiments, the experience of success seems to increase self-esteem, which leads to increased positive affect and altruism (Krebs, 1970). Although the above studies discuss that there seems to be an increase in self-esteem they did not directly measure it, and this is very essential to what is going to be demonstrated in this study.

Johnson (1974) did do an empirical study comparing measured self-esteem with subjects taken both before and after the experiment. However, her major emphasis was to delineate the effects of several types of sex stereotyped social power forms chosen by experimental subjects and not altruism. Johnson's research is noted because of content overlap and relevance to the proposed dependent variable here. She used the Personal Competence Scale (Campbell, Converse, Miller, and Stokes, 1960 version) to measure self-esteem. The only thing that differentiated change in self-esteem among subjects was the social power form they had selected. Users of all types of power had increased self-esteem except for those who chose "helplessness power," which was considered a female stereotypical scheme. This group's self-esteem was significantly lowered.

It is apparent that there are no clear trends in the conclusions which affect sex differences concerning altruism with children (Krebs, 1970). Likewise, results

of helping behavior by adults are clouded by situational factors which yield contradictions. However, despite the aforementioned there is a definite trend with adults in the research involving sex and dependency.

Sex of the potential helper and of the recipient seem to affect helping behavior in a complicated fashion. Schopler and Bateson (1965) found that as the dependency of the person in need increased, the male subjects became less altruistic and the female subjects more so. Schopler (1967) found that male undergraduates failed to help a highly dependent other when he was threatening their status; but female undergraduates, on the other hand, helped the dependent other. Unger, Raymond, and Levine (1974) found that female subjects cooperated equally with both a male and female experimenter when asked permission to enter a check-out line; but male subjects cooperated more with the female experimenter. Gruder and Cook (1971) have shown that dependency made no difference in the help given to males, but females who were dependent received significantly more help than females who were not dependent, and they also received marginally more help than males who were dependent. Bickman (1974) found a significant effect with subjects helping experimenters of the opposite sex more often than members of their own sex. He stated that it is important to examine if opposite-sex helping is due to the subject's expectations that something will be gained: namely, an opportunity to interact with and

possibly date a member of the opposite sex. The experimenters and subjects in his study were all college students.

It is implied, therefore, from the studies above that sex differences were probably due to the sex of the person receiving help (the recipient) and not due to the sex of the person giving help (the benefactor). Yet despite the aforementioned there exists a female stereotype that women are more concerned about nurturance and interpersonal behavior than males (Unger and Siiter, 1974). Again, it should be emphasized that the affective state of the benefactor after helping is unexplored terrain.

It was shown in a number of field experiments, women in general, cooperate less than men (Raymond and Unger, 1972; Gaertner and Bickman, 1971; Wispe and Freshley, 1971). This is probably because the field setting provided an element of perceived potential personal danger. This is most likely the cause of contrary situational results involving helping and sex interaction in the field. In a secure environment, such as the college campus, women will probably help at least equally. In fact, Rosenthal and Rosnow (1975) compiled a list of 22 volunteer characteristics (with number 1 being maximum confidence), and number 8 was that females are more likely than males to volunteer for research in general.

In an unobtrusive measure of altruism; Rudestam, Richards, and Garrison (1971) found that situationally induced self-esteem did not effect altruistic behavior.

In fact, they suggested that an aiding response may most appreciably be encouraged by dealing directly with the behavior rather than manipulating antecedent affective or cognitive states. Their task was helping a female passerby carry a bulky load of boxes. Males, as would be expected, offered to help more than females. Rudestam et. al. concluded that an aiding response is perhaps sex-linked, well-learned, and is not appreciably altered by temporary mood states induced by self-esteem; and further suggested that to encourage altruism it may be more promising to present a model or reward the helping behavior.

Although studies have been done to determine the difference between volunteers and non-volunteers in self-esteem, a perusal through the literature has not revealed any research which recorded a change score using a pre- and posttest design. In any event, below are some research findings about the differences between the volunteers and non-volunteers before participating in psychological research treatments. I. Silverman (1964) found that high self-esteem persons avoided participation as subjects to a greater extent than did subjects of low self-esteem; and he suggested that high self-esteem subjects use avoidance-type defenses whereas low self-esteem subjects use expressive-type defenses. High self-esteem subjects found a task easier, and perceived communication as being transmitted more clearly than low self-esteem subjects (Silverman, A.; Pressman; and Bartel;

1973). Subjects, both male and female, with high self-esteem were more internally controlled (Ryckman and Sherman, 1973).

There were two studies of sex behavior that employed only female subjects (Maslow, 1942; Maslow and Sakoda, 1952), and in both it was found that women scoring higher in self-esteem were more willing to volunteer. In a study of sex behavior that employed a combined sample of males and females, however, Siegman (1956) found no relationship between volunteering and self-esteem.

Differences between volunteers and non-volunteers in terms of other personality characteristics and values are also relevant to the present research. Raymond and King (1973) found, using Rokeach's Instrumental Value Scale, that the attitudes of volunteers and non-volunteers were extremely similar, however, volunteers rated "helpful" much higher. Valuing helpfulness appears to be related conceptually to altruism, although it is not quite the same thing. However, in a general way this study does seem to support the hypothesis that altruistic persons are more likely to volunteer.

Martin and Marcuse (1958) have shown that personality differences between the two types are associated with different types of volunteering situations. Waters and Kirk (1969) discovered that volunteers, persons who volunteered and didn't show (no-shows or pseudo-volunteers), and non-volunteers did not differ significantly on any motivational-personality or biographic variables.

Contrary evidence also exists. Riggs and Kaess (1955) found volunteers, as opposed to non-volunteers, showed introversive thinking, moody cycloid emotionality, plus high intrapunitive and low extropunitive scores. McLaughlin and Harrison (1973) have shown that high-neurotic extroverts volunteer significantly more than any other type for shock experiments. Bell (1962) wrote that volunteers, as opposed to non-volunteers, are less conventional and for certain experimental situations less well adjusted. He also wrote that though the evidence is not great, there does seem to be a tendency for volunteers to be less socially extraverted.

As Reissman (1965) points out in his discussion of the "helper therapy principle," very frequently the helper is helped as much or more than the person to whom the help is formally directed. Although this principle primarily addresses itself to social workers and others in the helping and health professions, it is thought here that this is an intrinsic response that also applies to participants, especially volunteers, who help psychological experimenters. Thus, the self-esteem for many subjects could change in a beneficial direction in a situation that is known to be helpful to the researcher, (and it is theorized that this would result in a reinforcing state of affairs which leads to further willingness to participate in future research, but this theory is beyond the ambition of this study and could be tested with subjects that have been involved in

said area). Furthermore, it is believed that the degree to which a subject experiences positive reinforcement (satisfaction) from being involved in this study will depend upon the treatment he or she is administered. The degree to which a subject in this experiment feels good, will be manipulated by the task engaged in. If the subject is presented a task (object identification here) in which one knows most of the items, the subject should be likely to feel better than if presented a task where one doesn't. Consequently, females given the task of identifying female-appropriate objects should score more correct responses than when presented male objects and vice versa.

The major hypotheses for this study are listed below. Helping will raise the self-esteem of volunteers more than that of non-volunteers. Helping will not help males and females equally, and there are several corollaries that follow: female volunteers will show the greatest increase in self-esteem, followed by male volunteers, female non-volunteers, and finally male non-volunteers will show the least change. The sex difference that is proposed here is based upon the female stereotype that they are more concerned about nurturance and interpersonal behavior than males are (Unger and Siiter, 1974). Therefore, it is anticipated that social learning of the male/female stereotypic roles "appropriate" in our society will be reflected in this research. Because the experimenter

requesting volunteers in this study is a male graduate student, it is further hypothesized that the percentage of subjects volunteering will be greater for females than males (Bickman, 1974; Gruder and Cook, 1971; Rosenthal and Rosnow, 1975; Schopler and Bateson, 1965).

Since volunteering for a psychological experiment is help given at a relatively low cost, usually for a brief period of time, the reciprocity principle (Gouldner, 1960) is probably in effect. Participants who donate their time to assist the experimenter with his research probably believe that they will receive something in return as opposed to those (non-volunteers) who don't. The return may include: (1) good will from a professor since many lab studies utilize college students who are often asked to help, (2) the educational experience, (3) "intrinsic glow," or (4) the opportunity "to learn more about myself," etc.

The logical progression of the present argument leads to the possible existence of a "self-expectation effect." Given that non-volunteers expect to gain little or nothing, this self-expectation may serve a limiting function; and conversely, those who do expect to gain might benefit from an accelerating function. This is basically determined by the value attributed to the usefulness of being involved. For instance, if one believes that the experience should not effect one's outlook, a self-esteem score won't be changed because it is a self-attitude scale.

METHOD

Subjects

A total of 159 subjects were used in this research. There were 50 undergraduate students from two educational psychology classes who were involved in the pretests used to develop the Object Identification Test, 20 males and 30 females. In the actual experimental phase of this study there was a subject population of 109 persons, 57 males and 52 females, who came from three undergraduate introductory anthropology classes.

Task

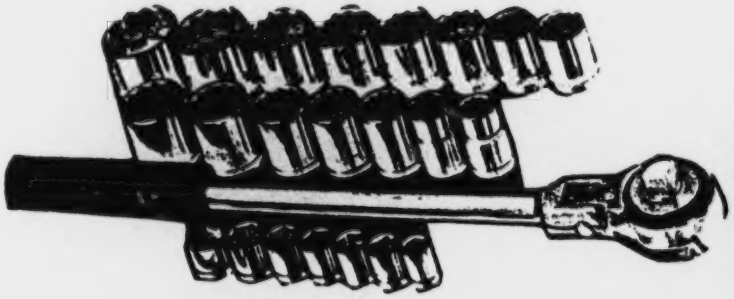
The task administered was the Object Identification Test developed for this study. Its two forms are either predominantly male-appropriate (Form A) or female-appropriate (Form B). The task is of paper and pencil format with 12 items. When a male subject is administered Form B or a female subject Form A, this constitutes a sex-inappropriate task. The instructions for the task call for specific identification of all objects with from one to four words per item. For instance, use frying pan instead of pot, or flathead screwdriver and not tool. Refer to Appendix A for more information about this test.

Figures 1 and 2 are the forms as presented to the subjects, except that answers are supplied here.

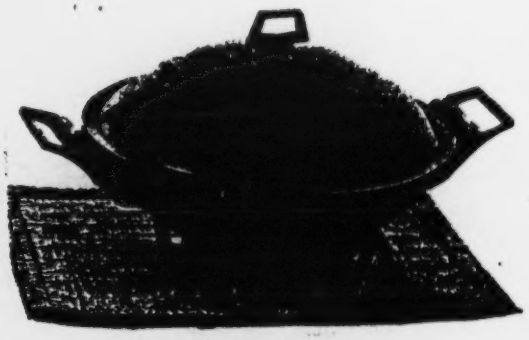
BEST COPY AVAILABLE

FIGURE 1

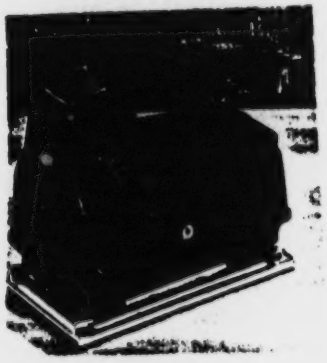
Object Identification Test
Form A



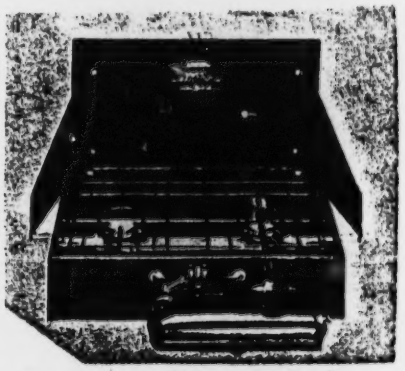
1. Wratchet wrench with sockets



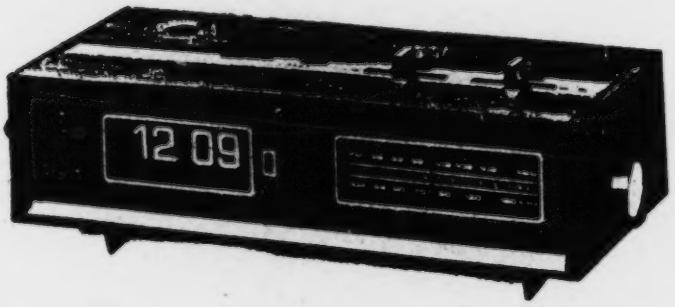
2. Electric wok



3. Electric sander



4. Camping (portable) stove



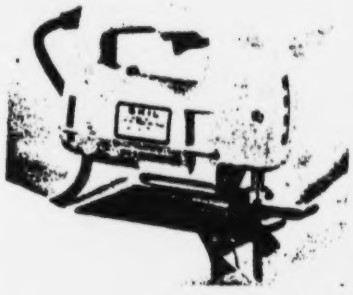
5. Clock radio

6. Hacksaw and blades

BEST COPY AVAILABLE

Form A - Continued

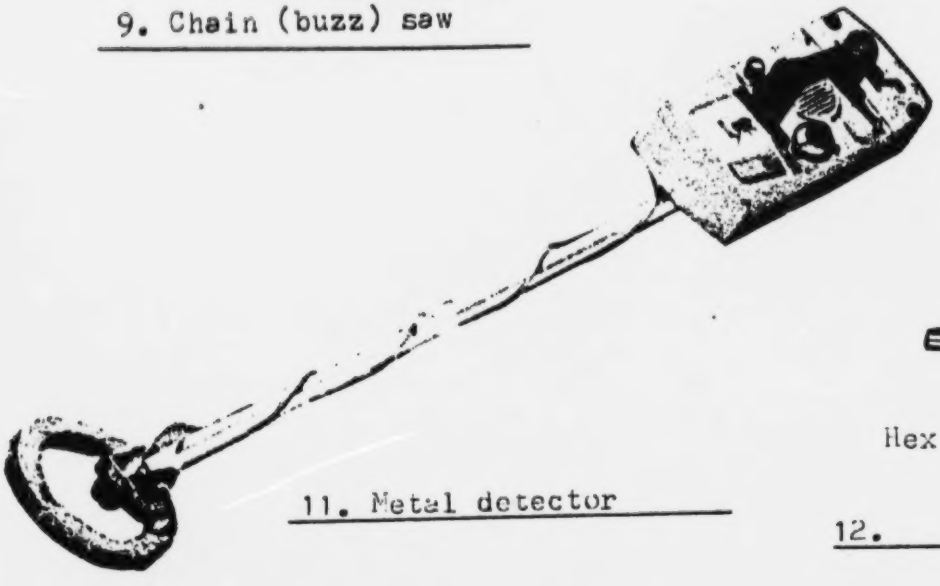
7. Razor knife



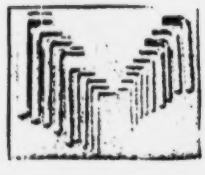
8. Jigsaw

9. Chain (buzz) saw

10. Measuring cup



11. Metal detector

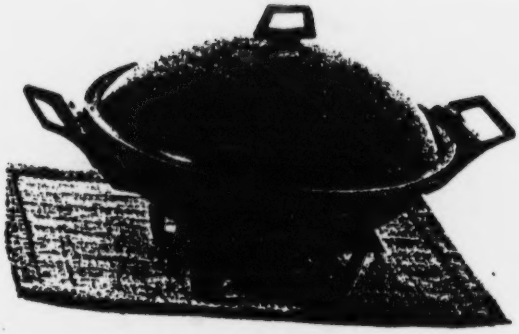


Hex (key or Allen) wrenches

12.

FIGURE 2

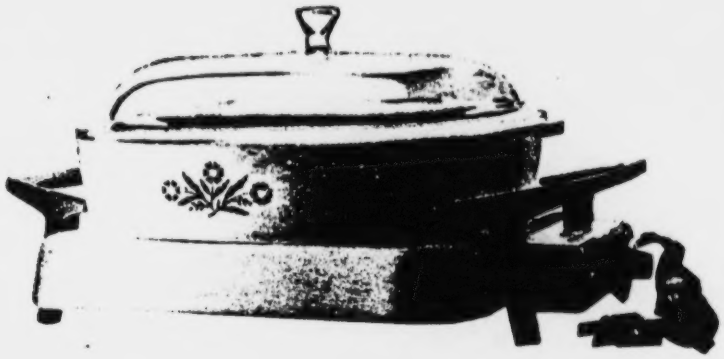
Object Identification Test
Form B



1. Electric wok

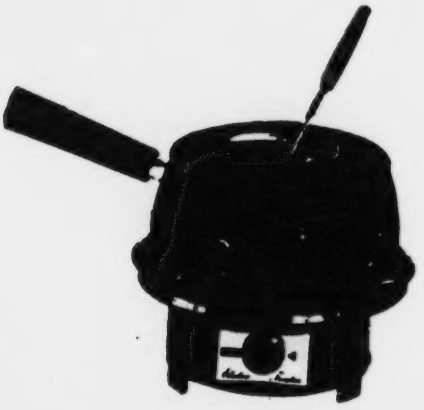
Hex (key or Allen) wrenches

2.

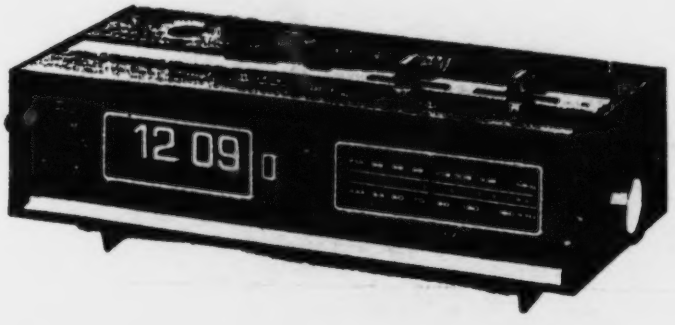


Electric skillet
(or casserole warmer)

3.



4. Electric fondue set



5. Clock radio

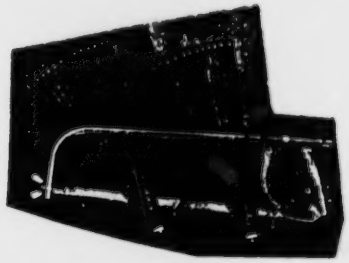
6. Salad bowl (set)

Form B - Continued

7. Razor knife

8. Ice cream machine

9. Decanter (cruet)



10. Hacksaw and blades

11. Measuring cup

12. Paring (peeler) knife

Instrument

This is a combination of two complete scales. Neither was titled upon presentation to subjects. The first 10 items are from a self-esteem scale (Rosenberg, 1965), and items 11 through 18 are from a personal competence scale (Campbell et. al., 1956 version). Both follow the original sequence of presented items, and no changes have been made to any item. See Appendix B for further details.

The operational definition of self-esteem for this research is that (Rosenberg, 1965):

> When we speak of high self-esteem...we shall simply mean that the individual respects himself, considers himself worthy, he does not necessarily consider himself better than others, but he definitely does not consider himself worse, he does not feel that he is the ultimate in perfection but, on the contrary, recognizes his limitations and expects to grow and improve.

Figure 3 is the instrument as presented to subjects, except that the points used to score the instrument are filled in where subjects were asked to place a check for their answers. Each question is worth a maximum of 4 points, so with 18 questions the maximum possible score is 72.

Procedure

Pretests were conducted to develop the Object Identification Test for final form. In short, 65 pictures were taken from mail order and showroom catalogs and flashed on a screen to the pretest subjects. Through

FIGURE 3

The Instrument Scale

1. I feel that I'm a person of worth, at least on an equal plane with others.
   1 _4_ Strongly agree
   2 _3_ Agree
   3 _2_ Disagree
   4 _1_ Strongly disagree

2. I feel that I have a number of good qualities.
   1 _4_ Strongly agree
   2 _3_ Agree
   3 _2_ Disagree
   4 _1_ Strongly disagree

3. All in all, I am inclined to feel that I am a failure.
   1 _1_ Strongly agree
   2 _2_ Agree
   3 _3_ Disagree
   4 _4_ Strongly disagree

4. I am able to do things as well as most other people.
   1 _4_ Strongly agree
   2 _3_ Agree
   3 _2_ Disagree
   4 _1_ Strongly disagree

5. I feel that I do not have much to be proud of.
   1 _1_ Strongly agree
   2 _2_ Agree
   3 _3_ Disagree
   4 _4_ Strongly disagree

6. I take a positive attitude toward myself.
   1 _4_ Strongly agree
   2 _3_ Agree
   3 _2_ Disagree
   4 _1_ Strongly disagree

Instrument Scale - Continued

7. On the whole, I am satisfied with myself.
   1 _4_ Strongly agree
   2 _3_ Agree
   3 _2_ Disagree
   4 _1_ Strongly disagree

8. I wish I could have more respect for myself.
   1 _1_ Strongly agree
   2 _2_ Agree
   3 _3_ Disagree
   4 _4_ Strongly disagree

9. I certainly feel useless at times.
   1 _1_ Strongly agree
   2 _2_ Agree
   3 _3_ Disagree
   4 _4_ Strongly disagree

10. At times I think I am no good at all.
   1 _1_ Strongly agree
   2 _2_ Agree
   3 _3_ Disagree
   4 _4_ Strongly disagree

11. I would rather decide things when they come up than always try to plan ahead.
   1 _1_ Strongly agree
   2 _2_ Agree
   3 _3_ Disagree
   4 _4_ Strongly disagree

12. I have always felt pretty sure my life would work out the way I wanted it to.
   1 _4_ Strongly agree
   2 _3_ Agree
   3 _2_ Disagree
   4 _1_ Strongly disagree

Instrument Scale - Continued

13. I seem to be the kind of person that has more bad luck than good luck.

1 _1_ Strongly agree
2 _2_ Agree
3 _3_ Disagree
4 _4_ Strongly disagree

14. I never have any trouble making up my mind about important decisions.

1 _4_ Strongly agree
2 _3_ Agree
3 _2_ Disagree
4 _1_ Strongly disagree

15. I have always felt that I have more will power than most people have.

1 _4_ Strongly agree
2 _3_ Agree
3 _2_ Disagree
4 _1_ Strongly disagree

16. There's not much use for me to plan ahead because there's usually something that makes me change my plans.

1 _1_ Strongly agree
2 _2_ Agree
3 _3_ Disagree
4 _4_ Strongly disagree

17. I nearly always feel pretty sure of myself even when people disagree with me.

1 _4_ Strongly agree
2 _3_ Agree
3 _2_ Disagree
4 _1_ Strongly disagree

18. I have often had the feeling that it's no use to try to get anywhere in this life.

1 _1_ Strongly agree
2 _2_ Agree
3 _3_ Disagree
4 _4_ Strongly disagree

item analysis, certain objects were found to suit requirements. The requirements being that certain objects were more easily identified by one gender. So here sex-appropriate is operationally defined as members of one sex being able to identify an object with a greater percentage of correct responses, based on pretest performance, more than the other sex.

The remainder of the procedure refers only to the actual experimental stage of the research. Initially, all subjects were told by their professors that they would briefly participate in a research project involving the experimenter's Master's Thesis. Before being presented with the instrument, the experimenter told them that the last 4 digits of their Social Security numbers were needed to protect their anonymity, but would also aid the researcher in cataloging the data. Then the instrument was presented to all students present in the classroom. Upon completion of the instrument, they were further told that their sex was also needed. Finally, they were told that if they wished to participate in further psychological research, the purpose of which will be explained at a later date, that would take approximately 15 minutes on campus in a lab in the near future they should indicate such by placing a "V" for volunteer on their paper. Then the instruments were collected and the experimenter left.

Exactly two weeks later the experimenter returned to the same classrooms unannounced to the students for

the second and last session. At this time predetermined tests were given to all students present who had taken the initial instrument scale. A subject's experimental group had been worked out in advance (after the first session but prior to the second) by the experimenter, and test distribution was facilitated by the four digit number requested earlier.

In this second session, all subjects were administered the instrument scale again. However, those who were in the experimental cells did the task first, and immediately afterwards took the instrument scale. Subjects in the experimental groups were presented either a sex-appropriate or sex-inappropriate task. Control subjects did not perform the task.

There are a total of 12 cells in this study which are divided into 2 levels, volunteers and non-volunteers. The non-volunteers were run with exactly the same procedure as the volunteers, and at the same time. Volunteers are operationally defined as those subjects who placed a "V" on their initial instrument scale after hearing the request, as previously written. Table 1 shows how many subjects were gathered in each cell. Subject mortality accounted for a loss of 28 subjects from the first session.

The dependent variable is the discrepancy (change) score from the two instrument scales.

TABLE 1

Subject Distribution

by Cell (n = 81)

	Volunteers		Non-Volunteers	
Task (if any)	Male	Female	Male	Female
Sex-appropriate	5	7	8	7
Sex-inappropriate	5	7	6	6
Controls	8	8	7	7
Totals	18	22	21	20

RESULTS

A t-test for proportions was done to determine whether or not any significant sex differences occurred with volunteers. As shown in Table 2, there is a difference of 13.32%

TABLE 2

Percentage of Volunteers

by Sex with a Male Experimenter

Sex	n	Percentage of Volunteers
Males	57	38.60
Females	52	51.92
Total	109	
Difference		13.32

more female voluntarism which is statistically significant at (t = 1.38, $p < .10$, df = 107, one-tail test) the .90 level.

The initial instrument scale means were computed and are shown in Table 3. There is virtually no difference among the groups.

TABLE 3

Table of Means

Based on Initial Instrument Scores

Category	Means	n	SD
Subjects	54.29	109	5.88[a]
Males	52.24	57	
Females	54.54	52	
Volunteers	53.90	49	
Non-Volunteers	54.62	60	
Male Volunteers	53.27	22	
Male Non-Volunteers	54.57	35	
Female Volunteers	54.41	27	
Female Non-Volunteers	54.68	25	

[a] SD applies to all 109 subjects as one category only.

An F-ratio of Beta weights was obtained to determine if there were any significant interaction effects by sex (males or females), task (appropriate or sex-inappropriate), or volunteer status (volunteer or non-volunteer). There were none, no F-ratio was significant. This analysed data is presented in Table 4.

TABLE 4

Analyses for F-ratio of Beta Weights

Source	df	MSw	F-ratio	p
Initial instrument scale scores, n = 109				
Volunteers x Non-Volunteers	1, 105	35.23	0.464	n. s.
Males x Females	1, 105	35.23	0.290	n. s.
Sex x Volunteer Status	1, 105	35.23	0.198	n. s.
Discrepancy scores, n = 81[a]				
Volunteers x Non-Volunteers	1, 69	13.69	0.029	n. s.
Males x Females	1, 69	13.69	0.081	n. s.
Sex x Volunteer Status	1, 69	13.69	0.693	n. s.
Discrepancy scores, n = 51 (control Ss removed)[b]				
Sex x Task	1, 43	12.13	0.123	n. s.
Task x Volunteer Status	1, 43	12.13	0.742	n. s.
Sex x Task x Volunteer Status	1, 43	12.13	1.298	n. s.

[a]Discrepancy scores can only be analysed for those Ss who were administered both the initial and the second instrument scales, so that a change in scores may be scrutinized.

[b]No control Ss performed a task.

Because there were no significant interaction effects it was not necessary to do a post hoc comparison among means. However, the mean change scores for each of the 12 experimental groups are displayed in Table 5. The changes range from a positive 2.25 (increase) to a negative 1.43 (decrease) by group scores. When considering that the instrument scale score at maximum is 72 with an experimental mean here of 54.29 and a standard deviation of 5.88, the changes here are virtually imperceptible.

TABLE 5

Mean Change Scores by Groups

Group	n	Mean Change
Male volunteers, sex-appropriate	5	2.00
sex-inappropriate	5	0.20
controls	8	1.13
Female volunteers, sex-appropriate	7	-1.43
sex-inappropriate	7	-0.29
controls	8	2.25
Male non-volunteers, sex-appropriate	8	0.25
sex-inappropriate	6	-1.00
controls	7	1.57
Female non-volunteers, sex-appropriate	7	2.14
sex-inappropriate	6	-0.66
controls	7	0.71
All groups combined[a]	81	0.60

[a] $\underline{SD} = 3.65$

DISCUSSION

The hypothesis that helping would raise the self-esteem of volunteers more than that of non-volunteers was true, but it was raised only slightly (3.86 - 3.01 = 0.85). This is based on the total net change scores (see Table 5). This is related to the author's theoretical position concerning the "self-expectation effect," whereby volunteers expected to gain something in return for their time spent participating

in the experiment. This is the accelerating function. Conversely, the non-volunteers expected to gain little or nothing from their experience. This is attributed to the limiting function. It must be remembered that the instrument scale used in this study is a self-attitude measure.

Based on Reissman's (1965) "helper therapy principle" the author stated that the self-esteem score for many subjects should increase. They did. As shown in Table 5, there was a net increase (of 0.60) for all groups combined.

It was stated earlier that those subjects who perform a sex-appropriate task should increase in self-esteem more than those subjects who are administered a sex-inappropriate task. This was also true. The sex-appropriate groups registered a small net change score greater than that of the sex-inappropriate groups (2.96 - 1.75 = 1.21). The treatment of experimental subjects was reflected in their self-esteem scores.

Three out of four sex-inappropriate groups did show a mean negative change score (-0.29, -1.00, and -0.66), but they were small, and the fourth group increased only slightly (0.20). Three out of four sex-appropriate groups showed a mean positive change score (2.00, 0.25, and 2.14). The fourth showed a moderate decrease (-1.43). However, all four control groups increased (1.13, 2.25, 1.57, and 0.71 = 5.66). The control group scores somewhat negate the meaningfulness of the other two findings.

The initial self-esteem scores for women are slightly

higher than that of men (2.30 = 54.54 - 52.24). However, male change scores by groups show a marginal net increase over females (1.43 = 4.15 - 2.72). The act of helping itself over two sessions increased male self-esteem more than that of females. Although none of the above figures are significant.

Several directional hypotheses were stated earlier. They were: female volunteers will show the greatest increase in self-esteem, followed by male volunteers, female non-volunteers, and finally male non-volunteers will show the least change. It didn't work out like that. The actual results were: male volunteers (3.33), female non-volunteers (2.19), male non-volunteers (0.82), and finally female volunteers (0.53).

Since none of the change scores are significant, it has been shown that there aren't any sex or volunteer status differences. It may be that self-esteem scales are not capable of recording these types of differences, and therefore the dependent variable could be too weak.

There may be intrapsychic conceptual phenomena that caused a biasing effect with women here. There was a larger percentage of female volunteers so they may appear to be like males, but this can't be distinguished. However, it was shown that helping did not help the helper in terms of raising his self-esteem significantly in this situation.

The 'opposite-sex helping is greater' school of thought has been shown to be partially true here. Although there

was a greater percentage of female voluntarism with a male experimenter, there would also have to be a female experimenter requesting volunteers to have conclusive evidence about opposite-sex helping. In any event, the type of research that a volunteer would be involved in for this study was intentionally not stated. Therefore, a truly innocuous request was made for volunteers here. Also, even though a male requested all volunteers and the percentages of volunteers by sex were not equal, they are all operationally self-selected volunteers. Regardless of the above, Rosenthal and Rosnow (1975) wrote that females are more likely than males to volunteer for research in general.

There are many descriptions of volunteers and non-volunteers. Probably most are partly true, and perhaps the simplest explanation is best. One simple one, and the most logical, is that differences are due to different types of voluntaristic situations (Martin and Marcuse, 1958). When the type of research is disclosed to prospective volunteers, a personal preference is a strong factor in determining a willingness to help. Rosenthal and Rosnow (1975) wrote that subject interest motivates people to volunteer. The situation is the major cause of differences in past research conclusions regarding voluntarism for psychological research, and there has been a lack of situation-centered explanations.

When comparing different subject populations, criteria

such as sex, both that of subjects and experimenters, and what percentage were and were not volunteers should be noted. Many studies do not even state how many potential volunteers refused to participate and the percentage of volunteers vs. non-volunteers used are often not listed (Raymond, Unger, and Stone, 1972). Other times experimenters don't distinguish between volunteers and pseudo-volunteers (or no-shows, subjects who say they will participate and then don't show up at the lab). It would have been preferable in the present study to have all subjects, both volunteers and non-volunteers, actually come to a lab so that the pseudo-volunteers could be weeded out. However, there is too much of an ethical problem in compelling non-volunteers to come to a lab, aside from the problem that they would be hostile and might deliberately try to ruin the experiment. However, Waters and Kirk (1969) found no differences among volunteers, pseudo-volunteers, or non-volunteers on any motivational-personality or biographic variables.

Overall, there was a relatively high rate of voluntarism for this study. It could be that since subjects were from anthropology classes, and not psychology classes which is usually the case, they might have been just curious about psychological research. Or it may be due to "normative expectations," since volunteering for behavioral research appears to become more likely the more it is viewed as the normative, expected, proper thing to do

(Rosenthal and Rosnow, 1975).

It seems as though Rudestam et. al. (1971) were correct when they suggested that an aiding response is not appreciably altered by temporary mood states induced by self-esteem, and that to encourage altruism it would be more promising to present a model or reward the helping behavior. It is likely that the nature of the task for which volunteering is requested serves as a moderator variable. The task of identifying sex-linked objects may not have been a strong enough independent variable to alter self-esteem.

In conclusion, we shouldn't assume sex differences. Unger and Siiter (1974) provide evidence for the existence of a female stereotype which portrays women as being more concerned about nurturance and interpersonal behavior than men are. This study has not shown either sex to be more helpful, or that members of one gender get more from helping than the other.

APPENDIX A

Object Identification Test

There was no task already in existence which could be used for sex-appropriateness in terms of objects, although there were a few which proposed to measure masculine and feminine roles. One by Deaux and Bieri (1967) used examples such as "smokes a pipe" and "likes to knit," but these were used to examine value judgements and not to manipulate affective states as was needed here. Also, because of the author's belief that sex-roles appear to be in a state of flux, this task was developed.

Items with the greatest difference in percentage by sex were chosen. There are two neutral objects on the same place on both forms used for this task, two reversed items on the same locations on both forms, and eight male and eight female items used only on one form in similar spaces. Neutrality was determined by almost all pretest subjects of both sexes scoring almost the exact percentage of correct responses on these two objects. A reversal is an object that was determined to be sex-appropriate for one sex, but is used on the form dominated by objects that are sex-appropriate for the other sex. The two neutral objects and the two reversals were added for noise functions. Table 6 indicates all items used in the pretests and percentages of correct responses by sex.

TABLE 6

Objects Presented for Pretest

Name	Percentage of Correct Responses	
	Males[a]	Females[b]
1. Electric skillet (casserole warmer)[f]	47.4	76.7
2. Manicuring (cuticle) scissors	21.1	23.3
3. Lawnmower	100.0	100.0
4. Movie camera	94.7	86.7
5. Electric sander[m]	63.2	36.7
6. Pressure cooker	73.7	70.0
7. Hacksaw and blades[m]	89.5	66.6
8. Cassette player/recorder	100.0	100.0
9. Measuring cup[f]	73.7	93.3
10. Baby stroller	100.0	100.0
11. Clock radio[n]	100.0	100.0
12. Wratchet wrench with sockets[m]	94.7	50.0
13. Eight-track cartridge player	100.0	100.0
14. Chain (buzz) saw[m]	95.0	56.7
15. Mixer	75.0	96.7
16. Razor knife[n]	65.0	66.6
17. Exercise bike	95.0	100.0
18. Decanter (cruet)[f]	45.0	65.0
19. Thimble	55.0	60.0
20. Heater (portable electric)	75.0	73.3
21. Hex (key or Allen) wrenches[m]	80.0	13.3
22. Ping pong table	100.0	100.0
23. Staple gun	80.0	70.0
24. Frying pan	75.0	83.3
25. Electric drill	100.0	93.3
26. Rocking chair	100.0	100.0
27. Cheese board	75.0	96.7
28. Hair (blow) dryer	85.0	96.7
29. Lantern	100.0	100.0
30. Two pliers	95.0	83.3
31. Microscope	95.0	100.0
32. (Tack) hammer	60.0	36.7
33. Paring (peeler) knife[f]	35.0	60.0

34. Jigsaw[m]	90.0	46.7
35. Metal detector[m]	65.0	36.7
36. (Meat or cheese) slicer	55.0	53.3
37. Glassware	100.0	100.0
38. Calculator	100.0	100.0
39. (Open ended) wrenches	90.0	86.7
40. Meat cleaver (butcher's knife)	85.0	63.3
41. Playpen (crib)	95.0	96.7
42. Barbell (weights)	95.0	93.3
43. Salad bowl (set)[f]	30.0	63.3
44. Tennis racket	95.0	100.0
45. Camping (portable) stove[m]	70.0	36.7
46. Blender	95.0	100.0
47. Spice rack	80.0	96.7
48. Meat grinder	90.0	96.7
49. Sleeping bag	90.0	96.7
50. Coffee (perculator) pot	100.0	100.0
51. Thermos jug	70.0	86.7
52. Sewing machine	100.0	100.0
53. Cooler (ice chest)	95.0	96.7
54. Ironing board	100.0	100.0
55. Vacuum cleaner	100.0	100.0
56. Popcorn cooker	88.8	100.0
57. Manicure set	100.0	95.0
58. Goatskin wine gourd	55.5	45.0
59. Automatic waffle maker	66.6	100.0
60. Ice cream machine[f]	22.2	55.0
61. Electric fondue set[f]	33.3	90.0
62. Electric wok[f]	0.0	55.0
63. Electric knife	100.0	100.0
64. (Table-top) hair dryer	88.8	100.0
65. Electric griddle (grill)	33.3	40.0

[a] n = 19 for objects 1-13, and n = 20 for objects 14-65.

[b] n = 30.

[f] Objects selected as female-appropriate for the task.

[m] Objects selected as male-appropriate for the task.

[n] Objects selected as being neutral for the task.

After all pretest subjects were presented with the 65 objects they were asked the following question: "What do you think this Object Identification Test is used to determine?" Table 7 shows the responses by sex and how the experimenter categorized the replies.

TABLE 7

Pretest Subjects' Perception of the Purpose of the Object Identification Test by Sex

Reply Category	Male	Female	Totals
Sex-roles/stereotypes	4	16	20
Socio-economic background	3	2	5
Sex-roles and background	0	2	2
General knowledge	9	4	13
Semantic problems in identifying objects	2	1	3
Perception and/or reaction time[a]	2	2	4
Don't know or didn't reply	0	3	3
Totals	20	30	50

[a]Pictures of the objects were flashed on a screen by an opaque projector for approximately 12 seconds each.

APPENDIX B

Instrument

The Self-Esteem Scale

The Rosenberg Self-Esteem Scale was developed in 1965. It was designed to measure attitudes toward the self along a favorable-to-unfavorable dimension and was constructed for use in a large scale survey. It was originally intended for use with high school juniors and seniors, but it has been found to be both valid for "normal" young adults and reliable for test-retest purposes with college students. This scale has been found to be used extensively throughout the literature whenever a measure of self-esteem was needed for college students, although it was used almost exclusively for underclassmen or introductory course college student populations. Rosenberg designed his scale for ease of administration.

The Personal Competence Scale

In an attempt to strengthen the meaningfulness of the dependent variable for the present research, the Personal Competence Scale (Campbell et. al.) which was developed for studying voters' attitudes about themselves in 1956, was chosen. The notion of competency (or alternately, personal efficacy) is closely related theoretically to those of ego-strength (e.g., self-esteem), and internal control. Personal efficacy is a feeling of mastery over the self and the environment.

Campbell et. al. state that the person lacking such a sense of mastery may either be tense and anxious about the course of his personal life, or may be resigned in a fatalistic way to a succession of events with which he does not feel that he can cope adequately.

Scoring the Instrument

A system for computing this combined scale was developed which would provide both a totally non-subjective interpretation of the results as well as a very wide range of scores (as described in the Method section).

REFERENCES

Aronfreed, J. Conduct and Conscience. New York: Academic Press, 1968.

Bell, C. R. Personality characteristics of volunteers for psychological studies. British Journal of Social and Clinical Psychology, 1962, 1, 81-95.

Berkowitz, L. and Connor, W. H. Success, failure and social responsibility. Journal of Personality and Social Psychology, 1966, 4, 664-669.

Bickman, L. The effects of social status on the honesty of others. In L. Bickman and T. Henchy (Eds.), Beyond the Laboratory: Field Research In Social Psychology. New York: McGraw-Hill, 1972.

Bickman, L. Sex and helping behavior. Journal of Social Psychology, 1974, 93, 43-53.

Bryan, J. H. and London, P. Altruistic behavior by children. Psychological Bulletin, 1970, 73, 200-211.

Campbell, A.; Converse, P. E.; Miller, W. E.; and Stokes, D. E. The American Voter. New York: Wiley, 1960.

Campbell, D. T. Ethnocentric and other altruistic motives. Nebraska Symposium on Motivation, 1965, 13, 283-311.

Campbell, D. T. On the genetics of altruism and the counter-hedonic components in human culture. Journal of Social Issues, 1972, 28, 21-37.

Daniels, L. R. and Berkowitz, L. Liking and response to dependency relationships. Human Relations, 1963, 16, 141-148.

Darley, J. M. and Latane, B. Bystander intervention in emergencies: Diffusion of responsibility. Journal of Personality and Social Psychology, 1968, 8, 377-383.

Deaux, K. K. and Bieri, J. Latitude of acceptance in judgements of masculinity-femininity. Journal of Personality, 1967, 35, 109-117.

Fellner, C. H. and Marshall, J. R. Kidney donors. In J. Macaulay and L. Berkowitz (Eds.), Altruism and Helping Behavior. New York: Academic Press, 1970.

Freud, S. Civilization and Its Discontents. London: Hogarth, 1930. (Standard ed., Vol. 21, 1961.)

Gaertner, S. and Bickman, L. Effects of race on the elicitation of helping behavior. Journal of Personality and Social Psychology, 1971, 20, 218-222.

Gouldner, A. The norm of reciprocity: A preliminary statement. American Sociological Review, 1960, 25, 161-178.

Gross, A. E. Sex and helping: Intrinsic glow and extrinsic show. Proceedings of the 80th Annual Convention of the American Psychological Association, 1972, 7, 904.

Gruder, C. L. and Cook, I. D. Sex, dependency and helping. Journal of Personality and Social Psychology, 1971, 19, 290-294.

Isen, A. M. Success, failure, attention, and reaction to others: The warm glow of success. Journal of Personality and Social Psychology, 1970, 15, 294-301.

Isen, A. M. and Levin, P. F. Effect of feeling good on helping: Cookies and kindness. Journal of Personality and Social Psychology, 1972, 21, 384-388.

Johnson, P. Social power and sex-role stereotyping. Paper presented at the 54th Annual Meeting of the Western Psychological Association, San Francisco, Calif.; April, 1974.

Katz, J. Altruism and sympathy: Their history in philosophy and some implications for psychology. Journal of Social Issues, 1972, 28, 59-69.

Krebs, D. L. Altruism - An examination of the concept and a review of the literature. Psychological Bulletin, 1970, 73, 258-302.

Lorenz, K. On Agression. New York: Harcourt, Brace, and World; 1966.

Macaulay, J. and Berkowitz, L. Altruism and Helping Behavior. New York: Academic Press, 1970.

Martin, R. M. and Marcuse, F. L. Characteristics of volunteers and non-volunteers in psychological experimentation. Journal of Consulting Psychology, 1958, 22, 475-479.

Maslow, A. H. Self-esteem (dominance feelings) and sexuality in women. Journal of Social Psychology, 1942, 16, 259-293.

Maslow, A. H. and Sakoda, J. M. Volunteer-error in the Kinsey study. Journal of Abnormal and Social Psychology, 1952, 47, 259-262.

Maslow, A. H. The Farther Reaches of Human Nature. New York: Viking, 1971.

McLaughlin, R. J. and Harrison, N. W. Extroversion, neuroticism and the volunteer subject. Psychological Reports, 1973, 32, 1131-1134.

Midlarsky, E. Some antecedents of aiding under stress. Proceedings of the 76th Annual Convention of the American Psychological Association, 1968, 3, 385-386.

Pruitt, D. G. Reward structure and cooperation: The decomposed prisoner's dilemma game. Journal of Personality and Social Psychology, 1967, 7, 21-27.

Raymond, B. J. and Unger, R. K. 'The apparel oft proclaims the man': Cooperation with deviant and conventional youths. Journal of Social Psychology, 1972, 87, 75-82.

Raymond, B.; Unger, R.; and Stone, S. To demand or not to demand. American Psychologist, 1972, 27, 577-579.

Raymond, B. and King, S. Value systems of volunteers and non-volunteer subjects. Psychological Reports, 1973, 32, 1303-1306.

Reissman, F. The "helper" therapy principle. Social Work, 1965, 10, 27-32.

Riggs, M. M. and Kaess, W. Personality differences between volunteers and non-volunteers. Journal of Psychology, 1955, 40, 229-245.

Rosenberg, M. Society and the Adolescent Self-Image. Princeton, New Jersey: Princeton University Press, 1965.

Rosenhan, D. L. Learning theory and prosocial behavior. Journal of Social Issues, 1972, 28, 151-163.

Rosenthal, R. and Rosnow, R. L. The Volunteer Subject. New York: Wiley, 1975.

Rudestam, K. E.; Richards, D. L.; and Garrison, P. Effect of self-esteem on an unobtrusive measure of altruism. Psychological Reports, 1971, 29, 847-851.

Ryckman, R. M. and Sherman, M. F. Relationship between self-esteem and internal-external control for men and women. Psychological Reports, 1973, 32, 1106.

Schopler, J. and Bateson, N. The power of dependence. Journal of Personality and Social Psychology, 1965, 2, 247-254.

Schopler, J. An investigation of sex differences on the influence of dependence. Sociometry, 1967, 30, 50-63.

Schwartz, S. H. Awareness of consequences and the influence of moral norms on interpersonal behavior. Sociometry, 1968, 31, 355-369.

Siegman, A. Responses to a personality questionnaire by volunteers and non-volunteers to a Kinsey interview. Journal of Abnormal and Social Psychology, 1956, 52, 280-281.

Silverman, A. F.; Pressman, M. E.; and Bartel, H. W. Self-esteem and tactile communication. Journal of Humanistic Psychology, 1973, 13, 73-77.

Silverman, I. Note on the relationship of self-esteem to subject self-selection. Perceptual and Motor Skills, 1964, 19, 769-770.

Skinner, B. F. Science and Human Behavior. New York: Macmillan, 1953.

Staub, E. The effects of success and failure on children's sharing behavior. Paper presented at the 39th Annual Meeting of the Eastern Psychological Association, Washington, D. C.; April, 1968.

Unger, R. K.; Raymond, B. J.; and Levine, S. M. Are women a "minority" group? Sometimes! International Journal of Group Tensions, 1974, 4, 71-81.

Unger, R. K. and Siiter, R. Sex-role stereotypes: The weight of a "grain of truth." Paper presented at the 45th Annual Meeting of the Eastern Psychological Association, Philadelphia, Pa.; April, 1974.

Waters, L. K. and Kirk, W. E. Characteristics of volunteers and non-volunteers for psychological research. Journal of Psychology, 1969, 73, 133-136.

Weiss, R. F.; Buchanan, W.; Altstatt, L.; and Lombardo, J. P. Altruism is rewarding. Science, 1971, 171, 1262-1263.

Weiss, R. F.; Boyer, J. L.; Lombardo, J. P.; and Stich, M. H. Altruistic drive and altruistic reinforcement. Journal of Personality and Social Psychology, 1973, 25, 390-400.

Weiss, R. F.; Cecil, J. S.; and Frank, M. J. Steep delay of reinforcement gradient in escape conditioning with altruisitc reinforcement. Bulletin of Psychonomic Society, 1973, 2, 372-374.

Wispe, L. G. and Freshley, H. B. Race, sex, and sympathetic helping behavior: The broken bag caper. Journal of Personality and Social Psychology, 1971, 17, 59-65.

Wispe, L. G. Positive forms of social behavior: An overview. Journal of Social Issues, 1972, 28, 1-19.